The influence of tapping slag ...   S/148/61/000/004/002/008
E071/E480

interaction between the tapping slag and metal, it is necessary to
find the physico-chemical properties of slag which aid its
separation from the metal.   There are 5 figures, 1 table and
8 Soviet references.

ASSOCIATION: Kuznetskiy metallurgicheskiy kombinat
(Kuznetsk Metallurgical Combine)

SUBMITTED: May 31, 1960

Card 3/3

S/148/61/000/012/003/009
E071/E435

AUTHOR: Danilov, P.M.

TITLE: Formation of oxide inclusions in steel deoxidized with aluminium

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, no.12, 1961, 54-60

TEXT: The formation and distribution of inclusions on solidification of steel was studied on an industrial 1300 kg ingot 30 kg laboratory ingots (thermally insulated to obtain a variation in the rate of their solidification) and on pencil samples. The experimental heats of ШХ15 (ShKh15) steel, containing from traces to 0.088% Al, were carried out in an induction furnace using pig iron as a starting material. Aluminium was introduced at $1600 \pm 10°C$ then, after 1.5 min, a sample was taken in a cylindrical mould (20 x 105 mm) and the metal tapped into an insulated cylindrical mould (135 x 320). Specimens for the investigation of non-metallic inclusions were cut out from samples and the corresponding ingots. Mean diameter of non-metallic inclusions, mean index of contamination (summary area of

Card 1/3

Formation of oxide inclusions ...   S/148/61/000/012/003/009
                                       E071/E435

inclusions, expressed in the units of the scale used) and the
amount of inclusions per 100 mm^2 of the polished specimen were
used for the evaluation of the degree of contamination of steel
by inclusions.   The degree of contamination of the industrial
ingot (ShKh15) was investigated in the direction from the peri-
phery to the centre.   It is concluded that, at the temperature of
smelting, aluminium introduced into the steel (within the range
investigated) does not combine the whole dissolved oxygen
therefore, the deoxidation processes continue during the cooling
and this results in formation of non-metallic inclusions   At
various cooling and crystallization velocities of steel containing
aluminium, the development of secondary deoxidation reactions and
separation and grouping of inclusions is non-uniform   Therefore
the degree of contamination in transverse direction of an ingo:
with oxides is also non-uniform.   The maximum degree of
contamination is observed at the end of the dendrites and in the
axial zone.   An increase of the aluminium content in the metal
leads to an increase in alumina in the non-metallic inclusions
which in turn increases the interphase tension on the boundary
Card 2/3

Formation of oxide inclusions ...   S/148/61/000/012/003/009
                                        E071/E435

inclusion-metal and thus lowers the adhesion of inclusions to the
metal and enhances their coalescence.   The optimum content of
alumina in the non-metallic inclusion is apparently reached for an
aluminium content of 0.019 to 0.02%.   A further increase in the
aluminium content leads to its intense oxidation (during melting
in air) resulting in a higher rate of formation of alumina than
its removal from the metal.   During crystallization of steel
oxide inclusions can "spread" to some extent along the convection
currents.   As a result of this ,   the degree of contamination
of longitudinal specimens is lower than that of transverse ones
V.A.Davidenkov is mentioned in connection with his contribution
in this field.   There are 4 figures, 2 tables and 5 references
4 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Kuznetskiy metallurgicheskiy kombinat
              (Kuznetsk Metallurgical Combine)

SUBMITTED: May 5, 1961

Card 3/3

DANILOV, P.M.; KRAMAROV, A.D.; YEREMFNKO, S.N.; GLAZKOVA, L.V.

Oxygen content and nonmetallic inclusions in steel with its
deoxidation by aluminum. Izv. vys. ucheb. zav.; chern. met. 4
no.8:48-55 '61.   (MIRA 14:9)

1. Kuznetskiy metallurgicheskiy kombinat i Sibirskiy metallurgicheskiy
institut.
         (Steel--Oxygen content) (Aluminum)

DANILOV, P. M.; KARACENTEVA, L. N. [Karachantseva, L. N.]

Influence of tapped slag on the impurity of the steel with nonmetallic inclusions. Analele metalurgie 15 no.4:59-68   O-D '61.

(Slag)   (Steel)

39748
s/148/62/000/006/001/005
E071/E435

/ 1500

AUTHORS: Vishnyakov, A.V., Danilov, P.M., Meteleva, G.G.,
             Borodulin, A.I., Tkachev, I.S., Plekhanov, P.S.

TITLE: Casting of 7 ton ingots of killed steels with closed
             shrinkage cavity

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya
             metallurgiya, no.6, 1962, 32-38

TEXT: The possibility of teeming 7 ton ingots with a closed
shrinkage cavity which is sufficiently clean as regards non-metallic
inclusions and segregations to become welded together on rolling
was demonstrated.   For insulating the closed shrinkage cavity
from air, a skin of 3 to 5 mm thick would be sufficient but for the
fact that on reheating the ingot such thin skin can melt and,
therefore, the thickness of an insulating layer of 20 to 100 mm is
desirable.   The principle of the method is to form a bridge in the
shrinkage cavity soon after teeming.   This bridge will divide the
shrinkage cavity into closed and open parts.   The closed part will
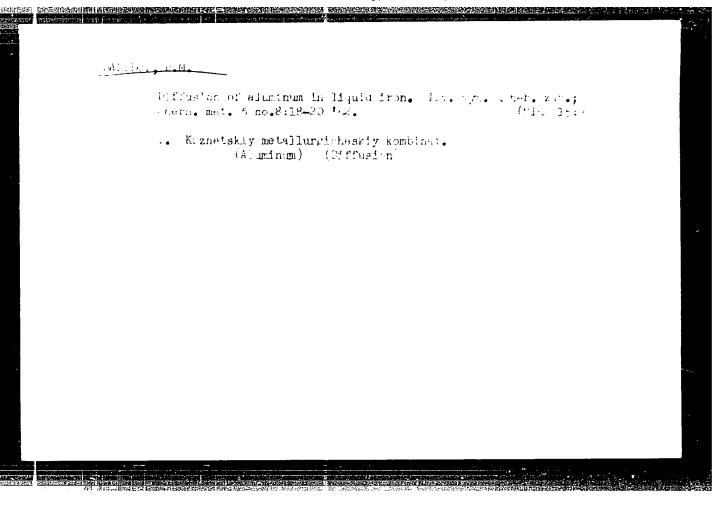
Card 1/2

Casting of 7 ton ingots ...

S/148/62/000/006/001/005
E071/E435

weld together during rolling so that only the open part of the
cavity has to be cut off.   Altogether five modifications of
teeming practice were tested (described in some detail and
illustrated).   Depending on the teeming practice, the size of
the cut off end varied from 3 to 7%.   Subsequent testing of the
vertical cross-section of an ingot with closed shrinkage cavity
for the segregation of carbon, phosphorus and sulphur showed that the
degree of segregation was small and did not exceed the degree of
segregation encountered in normal ingots.   There are 4 figures.

ASSOCIATION: Sibirskiy metallurgicheskiy institut i Kuznetskiy
             metallurgicheskiy kombinat (Siberian Metallurgical
             Institute and Kuznetsk Metallurgical Combine)

SUBMITTED: May 20, 1961

Al... , r.M.

Diffusion of aluminum in liquid iron. Izv. vyz. ucheb. zav.;
chern. met. 6 no.8:18-20 '63.   (MIRA 16:9)

1. Kuznetskiy metallurgicheskiy kombinat.
        (Aluminum) (Diffusion)

VISHNYAKOV, A.V.; DANILOV, P.M.; METELEVA, G.G.; BORODULIN, A.I.;
    TKACHEV, I.S.; PLEKHANOV, P.S.

    Fusion of closed shrinkage cavities in killed steel ingots.
    Izv. vys. ucheb. zav.; chern. met. 5 no.8:44-52 '62.
                                                (MIRA 15:9)
    1. Sibirskiy metallurgicheskiy institut i Kuznetskiy metallurgicheskiy
    kombinat.
                (Steel ingots—Defects)

DANILOV, P.M., inzh.

Effect of the fluidity of the tapping slag on the content of
nonmetallic inclusions in ShKhi5 steel. Stal' 22 no.2:133-134
F '62.   (MIL. 15:2)

1. Kuznetskiy metallurgicheskiy kombinat,
                (Steel · Electrometallurgy)

SHILOV, F.M., inzh.

Investigating a new procedure for the smelting of ShKh15 steel in
electric furnaces. Stal' 22 no.10:912-915 O'62.   (MIRA 15:10)

1. Kuznetskiy metallurgicheskiy kombinat.
                (Steel--Electrometallurgy)

VISHNYAKOV, A.V.; BORODULIN, A.I.; DANILOV, P.M.; METELEVA, G.G.;
         TKACHEV, I.S.; PLEKHANOV, P.S.

Quality of the fusion of closed shrinkage cavities in killed
steel ingots. Stal' 22 no.12:1118-1120 D '62.   (MIRA 15:12)

1. Sibirskiy metallurgicheskiy institut i Kuznetskiy metallurgi-
cheskiy kombinat.
         (Steel ingots—Defects)   (Rolling (Metalwork))

ACCESSION NR: AP4019474   S/0133/64/000/003/0229/0231

AUTHORS: Konovalov, K. N. (Engineer); Glazov, A. N. (Engineer); Danilov, P. M.
(Engineer); Pashchenko, V. Ye. (Engineer)

TITLE: The effect of ingot mold lubrication on the surface quality of steel
1Kh18N9T

SOURCE: Stal', no. 3, 1964, 229-231

TOPIC TAGS: steel, 1Kh18N9T stainless steel, steel melting, steel pouring, ingot
mold lubricant, oxidizing lubricant, reducing lubricant, evaporative lubricant,
refractory powder, slag powder, naphthalene, anthracene, petrolatum, lakoil
lubricant

ABSTRACT: The effect of ingot mold lubrication on the quality of the surface of
stainless steel ingots (1Kh18N9T) was studied experimentally. The casts were
produced by both top- and bottom-pouring methods. The results showed that the
addition of oxidizing or reducing powders to the usual lubricant did not eliminate
the formation of crust and of pitted surface, while evaporative lubricant applied
to cool molds decreased the number of pits but increased various defects associated

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ACCESSION NR: AP4019474

with the formation of crust. It was also determined that the absence of lubricant
or the use of the refractory and slag powders as substitutes for lubricants
increased the number of scabs on the ingot surface, and that the presence of
moisture or of organic matter in such powders increased the degree of surface
pitting. Adding dry borax to the "lakoil" lubricant improved somewhat the surface
quality, whereas using naphthalene, anthracene, and petrolatum as lubricants
created reducing conditions during steel pouring and resulted in a uniform "lubri-
cating" layer of soot on the mold walls and produced a greatly improved general
appearance of the ingot surface. Orig. art. has: 3 figures.

ASSOCIATION: Kuznetskiy metallurgicheskiy kombinat (Kuznetsk Metallurgical
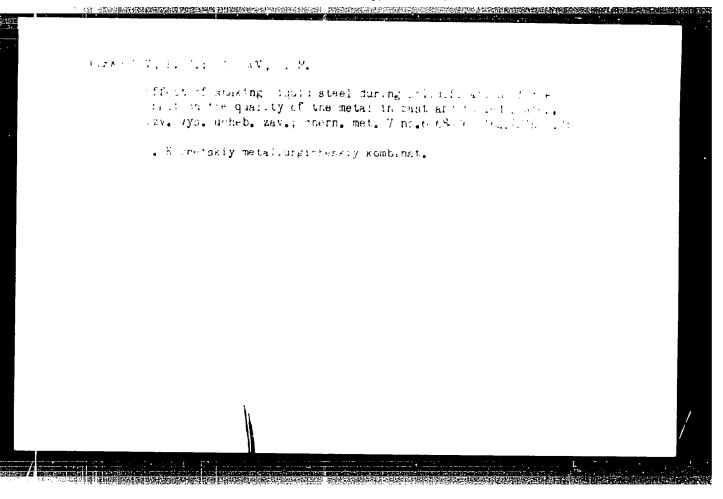Combine)

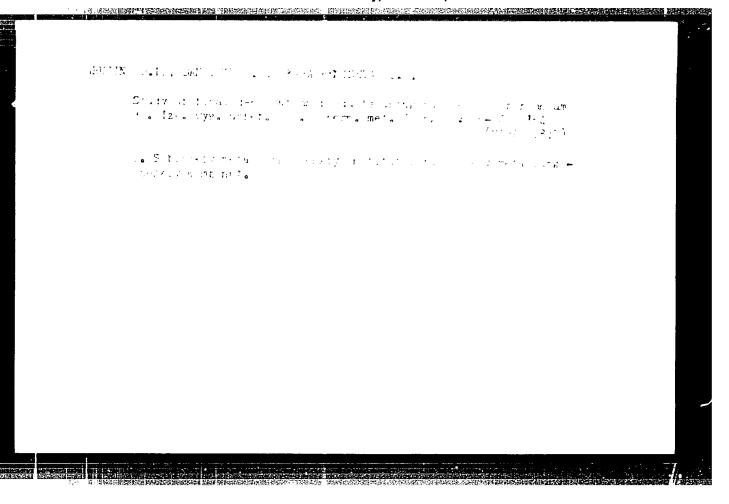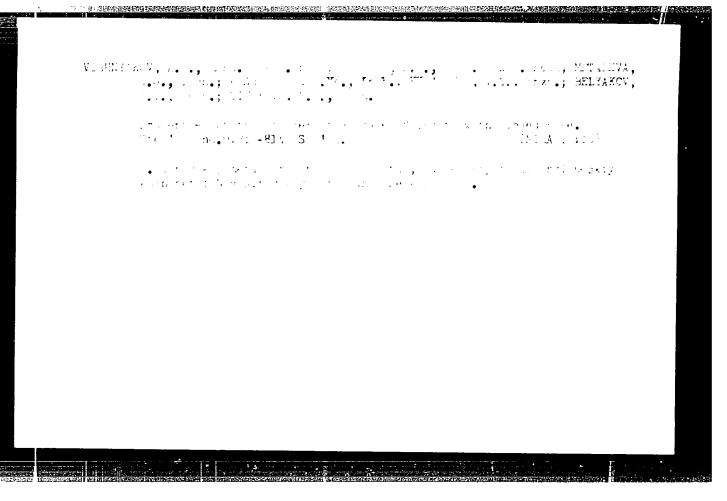SUBMITTED: 00   DATE ACQ: 27Mar64   ENCL: 00

SUB CODE: ML   NO REF SOV: 003   OTHER: 000

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BAKAN' V. I.; ??? AV, . M.

Effect of stirring liquid steel during solidification of the ingot on the quality of the metal in cast ??? ??? ???. izv. vys. ucheb. zav.; chern. met. 7 no.6 ??? ??? ???.

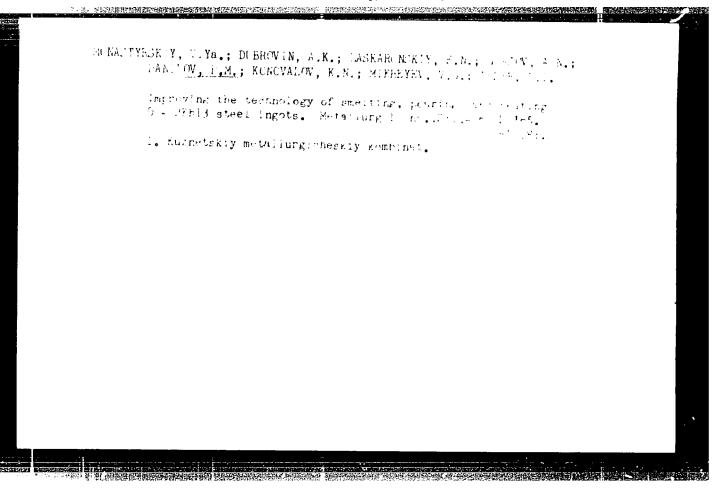. Kuznetskiy metallurgicheskiy kombinat.

LEVIN, A.M.; GLAZOV, A.N.; VERSHININ, V.I.; DANILOV, P.M.; PASHCHENKO, V.Ye.

Characteristics of the production of catalyzer steel with a low
addition content. Izv. vys. ucheb. zav.; chern. met. 8
no.10:62-68 '65.   (MIRA 18:9)

1. Sibirskiy metallurgicheskiy institut i Kuznetskiy metallurgi-
cheskiy kombinat.

MONASTYRSKIY, M.Ya.; DUBROVIN, A.K.; LASKARONSKIY, A.N.; ...OV, A.N.;
     PANTOV, I.M.; KONOVALOV, K.N.; MIKHEYEV, V...; ...

     Improving the technology of smelting, pouring, and heating
     0 - 27kh13 steel ingots. Metallurg ...

     I. Kuznetskiy metallurgicheskiy kombinat.

L 29252-66   EWP(j)/EWT(m)   RM/WW/JW

| ACC NR: AP6019314 | SOURCE CODE: UR/0286/65/000/012/0022/0022 |

34
B

INVENTOR: Levin, A. M.; Glazov, A. N.; Vershinin, V. I.; Danilov, P. M.;
Plekhanov, P. S.; Pashchenko, V. Ye.; Lachinov, S. S.; Kuznetsov, L. D.; Rabina, P. D.;
Levitskaya, T. T.; Tatarov, F. S.; Lipinskaya, V. P.; Cherneyeva, Z. M.; Alekseyeva, Z. S.

ORG: none

TITLE: Steel for manufacturing ammonia synthesis catalyzer. Class 18, No. 171877

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 12, 1965, 22

TOPIC TAGS: steel, ammonia, inorganic synthesis, catalysis

ABSTRACT: A steel for manufacturing ammonia synthesis catalyzers is distinguished
by an increased catalyzer activity and has the following chemical composition:
0.10% C, 1.0-2.0% Al, 0.05% Mn, 0.008% P, 0.008% S, 0.05% Cr, 0.10% Cu, 0.05% Ni,
0.40% Si, balance—iron. [JPRS]

SUB CODE: 11, 07 / SUBM DATE: none

Card 1/1   UDC: 669.14/15

GLAZOV, A.N., inzh.; DANILOV, P.M., kand. tekhn. nauk; ZAMARAYEV' Yo.M.,
    inzh.; MESYATS, V.I., inzh.; PASHCHENKO, V.Ye., inzh.

Influence of the technology of smelting on the quality of
Khl7N7IU steel sheet and rolled shapes. Stal' 25 no.10
911-913 J '65.   (MIRA 18:11)

1. Kuznetskiy metallurgicheskiy kombinat.

L 29252-66   EWP(j)/EWT(m)   RM/WW/JW

ACC NR: AP6019314   SOURCE CODE: UR/0286/65/000/012/0022/0022

INVENTOR: Levin, A. M.; Glazov, A. N.; Vershinin, V. I.; Danilov, P. M.;
Plekhanov, P. S.; Pashchenko, V. Ye.; Lachinov, S. S.; Kuznetsov, L. D.; Rabina, P. D.;
Levitskaya, T. T.; Tatarov, F. S.; Lipinskaya, V. P.; Cherneyeva, Z. M.; Alekseyeva, Z.S.

ORG: none

TITLE: Steel for manufacturing ammonia synthesis catalyzer. Class 18, No. 171877

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ABSTRACT: A steel for manufacturing ammonia synthesis catalyzers is distinguished
by an increased catalyzer activity and has the following chemical composition:
0.10% C, 1.0-2.0% Al, 0.05% Mn, 0.008% P, 0.008% S, 0.05% Cr, 0.10% Cu, 0.05% Ni,
0.40% Si, balance--iron. [JPRS]

SUB CODE: 11, 07 / SUBM DATE: none

Card 1/1   UDC: 669.14/15

S/032/60/026/05/33/063
B010/B008

AUTHOR: Danilov, P. N.

TITLE: Fatigue Tests at Continuous and Uniform Change of the
            Amplitude of the Cyclic Stresses

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 5, pp. 598-602

TEXT: A suitable device was designed on the basis of the machine by
Schenk intended for fatigue tests (by means of circular bendings), for
carrying out the tests mentioned in the title. An additional motor
which caused continuous load and thus produced in the test sample con-
tinuous uniformly changing amplitudes of the cyclic stresses was used.

The change of the stress amplitude amounted to about 2 kg/mm^2 per
minute. Steel samples of the types 40Kh, 35KhM, 40KhNVA, 35KhN3M,
60S2A, 65G, 50KhFA, and 65S2VA which were subjected to various thermal
pretreatment, were tested. Individual data on the samples investigated
and the test results are given in a table. The maximum value of the
amplitude at which the fracture of the sample occurs, was fixed at

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Fatigue Tests at Continuous and Uniform Change $S/032/60/026/05/33/063$
of the Amplitude of the Cyclic Stresses $B010/B008$

conditions of a continuous increase of the amplitude of the cyclic
stresses. It was observed that the fracture of the samples (for a group
of samples) occurs at a similar maximum value of the amplitude, so that
the mean value of 3 to 5 determinations can be considered as a new index
of the mechanical properties, and is denoted conditionally as fatigue
strength limit σ_B'. A table shows that σ_B' is considerably smaller than the
yield strength and the proportional limit at elongations. With a reduc-
tion of the strength of the steel, σ_B' approaches however the last-mention-
ed values. It is established that a linear dependence exists between the
index σ_B' and the fatigue limits σ_{-1}' and σ_{-1} (Fig. 3, diagrams of the
dependence $\sigma_B' - \sigma_{-1}'$ and $\sigma_B' - \sigma_{-1}$). The first results of the fixation of
the index for the evaluation of the fatigue strength of a material which
operates under conditions of a continuously changing amplitude of the
cyclic stresses were thus fixed, and the relations to the common charac-
teristics of the fatigue strength were represented. A paper by S. V.
Serensen and L. A. Kozlov is mentioned in the text. There are 3 figures,
1 table, and 9 references, 7 of which are Soviet

Card 2/2

$\checkmark B$

DANILOV, P.P.; GRIGOR'YANTS, A.S., speteredaktor; PROSTOSERDOV, A.P.,
redaktor izdatel'stva; BOROVHEV, N.K., tekhnicheskiy redaktor

[Safety manual for scraper operators] Pamiatka po tekhnike
bezopasnosti dlia skreperista. Moskva, Gos.izd-vo lit-ry po
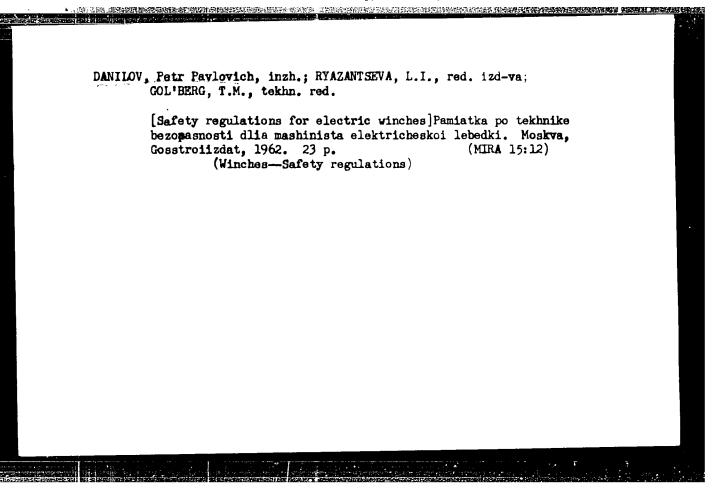stroit. i arkhit., 1957. 21 p.   (MLRA 10:7)
        (Scrapers)

DANILOV, P.P.; CHEKHOVSKAYA, T.P., red. izd-va; BRUSINA, L.M., tekhn.
red.

[Instructions on safety measures for hauling building machinery
and equipment on trailers] Pamiatka po tekhnike bezopasnosti pri
perevozke stroitel'nykh mekhanizmov i oborudovaniia na trailerakh.
Moskva, Gos.izd-vo stroit. lit-ry po stroit., arkhit. i stroit.
materialam, 1961. 14 p.   (MIRA 14:11)
                    (Transportation, Automotive—Safety measures)
                          (Building machinery)

DANILOV, P.P.; RYAZANTSEVA, L.I., red. izd-va; GOL'BERG, T.M.,
        tekhn. red.

[Safety regulations for operators of portable cranes]Pa-
miatka po tekhnike bezopasnosti dlia mashinistov perenosnykh
kranov. Moskva Gosstroiizdat, 1962. 31 p.   (MIRA 15:9)
        (Cranes, derricks, etc.—Safety measures)

DANILOV, Petr Pavlovich, inzh.; RYAZANTSEVA, L.I., red. izd-va;
        GOL'BERG, T.M., tekhn. red.

        [Safety regulations for electric winches]Pamiatka po tekhnike
        bezopasnosti dlia mashinista elektricheskoi lebedki. Moskva,
        Gosstroiizdat, 1962. 23 p.   (MIRA 15:12)
                    (Winches—Safety regulations)

DANILOV, Petr Pavlovich; TABUNINA, M.A., red. izd-va; NAUMOVA, G.D.,
        tekhn. red.

[Handbook on accident prevention for the hydraulic excavator
operator]Pamiatka po tekhnike bezopasnosti dlia gidromonitor-
shchika. Moskva, Gosstroiizdat, 1962. 30 p. (MIRA 15:12)
        (Excavating machinery--Safety measures)

DANILOV, Petr Pavlovich; RYAZANTSEVA, L.I , red.; MIKHEYEVA, A.A.,
tekhn. red.

[Safety manual for transporting building machinery and
equipment on trailers] Pamiatka po tekhnike bezopasnosti
pri perevozke stroitel'nykh mekhanizmov i oborudovaniia
na trailerakh. Izd.2., perer. i dop. Moskva, Gosstroiizdat,
1963. 31 p.   (MIRA 16:9)
                (Truck trailers—Safety measures)
        (Construction equipment—Transportation)

LAND.., Petr Pavlovich, RYAZANTSEVA, L.I., red izl-va, SHEVCHENK.,
T.N., tekhn. red

[Safety manual for the motor loader operator] Pamiatka po
tekhnike bezopasnosti dlia mashi....sta pri pogruzchika i
perer izi. Moskva, Gosstroiizdat, 1...   . F
MIRA   10

Loading and unloading--Safety measures.

BLOKH, E.L., inzh.; POTOKER, I.M., inzh.; ROMANOV, G.I., inzh.;
        KHRENOV, G.S., inzh.; DANILOV, P.P., nauchnyy red.;
        RYAZANTSEVA, L.I., red.; TARKHOVA, K.Ye., tekhn. red.

[Safety instructions for insulation work and the manufacture
of materials at production bases] Instruktivnye ukazaniia po
tekhnike bezopasnosti pri proizvodstve teploizoliatsionnykh
rabot i izgotovlenii materialov na proizvodstvennykh bazakh.
Moskva, Gosstroiizdat, 1963. 102 p.   (MIRA 16:9)

1. Russia (1917- R.S.F.S.R.) Ministerstvo montazhnykh i
spetsial'nykh stroitel'nykh rabot. Tekhnicheskoye upravleniye.
        (Insulating materials) (Industrial safety)

DANILOV, Petr Pavlovich; PATENOVSKAYA, M.I., red.; PAVLOVA, V.,
        tekhn. red.; YAKHONTOVA, T., tekhn. red.

[Safety regulations for motor crane operators] Pamiatka po
tekhnike bezopasnosti dlia mashinista avtomobil'nogo krana.
Izd.2., perer. i dop. Moskva, Stroiizdat, 1964. 35 p.
                                        (MIRA 17:3)

DANILOV, Petr Pavlovich

[Safety manual for pipe layers] Pamiatka po tekhnike bez-
opasnosti dl'a mashinistov-truboukladchikov. Moskva, Stroi-
izdat, 1965. 28 p.   (MIRA 18:5)

DANILOV, P.P., elektromekhanik

Attachment to a rod for changing PKN-6 fuses. Avtom., telem.i
sviaz' 6 no.11:39 N '62.   (MIRA 15:11)

1. Smolenskaya distantsiya signalizatsii i svyazi Moskovskoy dorogi.
                        (Electric cutouts)

DANILOV, Petr Stanislavovich; BOBYLEVA, L.V., red.; GERASIMOVA, Ye.S.,
tekhn. red.

[Capital assets and productive capacity of industrial
enterprises and how to use them to the vest advantage]
Osnovnye fondy i proizvodstvennye moshchnosti promyshlennykh
predpriiatii i puti ikh luchshego ispol'zovaniia. Moskva,
Izd-vo ekon.lit-ry, 1961. 75 p.   (MIRA 15:1)
        (Capital)   (Industrial capacity)

DANILOV, Petr Stanislavovich, prepodavatel'; PODGORNOVA, V., red.;
KLIMOVA, T., tekhn. red.

[Workers' participation in enterprise management]Uchastie rabo-
chikh v upravlenii predpriiatiem. Moskva, Gospolitizdat, 1962.
46 p.   (MIRA 15:6)
1. Moskovskaya vysshaya partiynaya shkola (for Danilov).
                    (Industrial management)

DANILOV, R. L.

"Investigation of the Performance of a Double Absorption Type Refrigerating Installation." Sub 21 Nov 47, Moscow Order of Lenin Power Engineering Inst imeni V. M. Molotov

Dissertations presented for degrees in science and engineering in Moscow in 1947

SO: Sum No. 457, 18 Apr 55

KOCHETKOV, N., kandidat tekhnicheskikh nauk; DANILOV, R., kandidat tekhni-
cheskikh nauk.

Absorption cold storage plant with an output of 30,000 large
calories per hour. Khol.tekh. 30 no.4:11-15 O-D '53.   (MLRA 7:3)

1. VNIKhI.   (Refrigeration and refrigerating machinery)

BADYL'KES, I., professor, doktor tekhnicheskikh nauk; DANILOV, R., kandidat
tekhnicheskikh nauk.

Automatic pumpless absorption unit with a capacity of 10,000 kg-cal/hr.
Khol.tekh. 32 no.1:15-20 Ja-Mr '55.   (MIRA 8:7)
       (Refrigeration and refrigerating machinery)

DANILOV, R.L., kand.tekhn.nauk; BADYL'KES, I.S., doktor tekhn.nauk, prof.,
      nauchnyy red.; STRONGIN, V.L., red.; SABITOV, A., tekhn. red.

      [Absorption refrigerating machinery for use in procurement centers
      and agriculture] Absorbtsionnye kholodil'nye mashiny dlia nizovoi
      seti i sel'skogo khoziaistva. Moskva, Gos. izd-vo torgovoi lit-ry,
      1957. 24 p.   (MIRA 11:5)
              (Refrigeration and refrigerating machinery)

AUTHOR: Danilov, R., Candidate of Technical Sciences.   66-1-3/26

TITLE: Testing of a low temperature absorption unit of 100 000
          kcal/hr cooling capacity. (Ispytaniye nizkotemperaturnoy
          absorbtsionnoy ustanovki proizvoditel'nost'yu
          100 tys. kkal/chas).

PERIODICAL: "Kholodil'naya Tekhnika" (Refrigeration Engineering),
          1957, No.1, pp.10-15 (U.S.S.R.)

ABSTRACT: VNIKhI developed a design of an absorption refrigeration unit
          for continuous operation with a cooling capacity of
          100 000 kcal/hr for an evaporation temperature of -35 C and
          a condensation temperature of 30 C. According to this
          design 30 installations were built for cold stores of
          700 ton capacity to be newly constructed, with a daily
          freezing capacity of 50 tons of fish. The first such cold
          store was put into operation in 1956.   Operational tests
          were carried ou: on one such installation of 90 000 to
          125 000 kcal/hr capacity with a circulation rate of the
          cooling solution of 15.4 to 11.3 kg of solution/kg of ammonia.
          The condensation temperature was 33.5 C, the evaporation
          temperature varied between -28 and -34 C. The heating
          temperature of the solution varied between 123 and 131 C,
Card 1/3 the installation required filling with a saturated vapour of

Testing of a low temperature absorption unit of   66-1-3/26
100 000 kcal/hr cooling capacity. (Cont.)

3 to 4 atm pressure. A schematic diagram of the installation
is shown in Fig.1. In the generator ammonia vapours are
separated which contain a certain percentage of water vapour
and this mixture is first fed into distribution equipment
where it is partly rectified by means of a strong solution
flowing from the heat exchanger and,following that,proceeds
to a system of cylindrical porcelain rings from where it will
fill the rectification column. In the rectification
column there is a counter flow of cold "flegma" (rich
mixture of water with ammonia forming in the rectifier)
which purifies additionally the ammonia vapour from the
water. The final rectification of the ammonia vapour takes
place in the water cooled rectifier. The almost pure
'ammonia vapour then flows into the condenser where it is
liquefied by means of flowing cold water. The liquid
ammonia flows into the gas super-cooler where it is cooled
by the ammonia vapours which flow from the evaporation
system and from there the liquid ammonia flows into the evaporation
system. The weak solution from the generator is directed
into the heat exchanger where it flows in counter flow to
Card 2/3   the strong solution and brings about a cooling down of the

Testing of a low temperature absorption unit of   66-1-3/26
100 000 kcal/hr cooling capacity. (Cont.)

weak solution and heating of the strong solution. Following
that,the weak solution flows through the regulating valve
into the upper absorber elements. The absorber consists of
three elements which are interconnected by means of tubes.
The individual parts of the installation are described.
Fig.2 shows a sketch of the absorber; Fig. shows a sketch
of the hot unit and Fig.4 of the cold unit. The heat
transfer coefficients of the individual components and also
some other data are included.
There are four figures.

AVAILABLE:

Card 3/3

BADYL'KAS, I. prof., doktor tekhn. nauk; DANILOV, R., kand.tekhn.nauk

Refrigeration cycle with the use of vapor jets as boosters [with summary in English]. Khol. tekh. 35 no.4:27-32 Jl-Ag '58.

(MIRA 11:10)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut kholodil'noy promyshlennosti.

(Refrigeration and refrigerating machinery)

30V/66-59-3-8/31

14(1)

AUTHOR: Danilov, R , Candidate of Technical Sciences

TITLE: Determination of the Optimum Working Conditions for the Work of an Absorption-Type Refrigerating Machine

PERIODICAL: Kholodil'naya tekhnika, 1959. Nr 3, pp 34 - 36 (USSR)

ABSTRACT: In the designing of absorption-type machines, one assumes that the circulation working process runs at constant condensation pressures and boiling points of coolants, a definite concentration of the strong solution and constant temperature of the weak solution which passed the heat exchanger. Thus at a prescribed pressure of condensation only the concentration varies The optimum concentration of the weak solution therefore determines the optimum conditions of the process The present article deals with the problem of finding this optimum concentration. If the concentration has its optimum value, the value of evaporation heat stands at a minimum, which is found from Equation 8 expressing the relationship between evaporation heat, enthalpies of ammonia vapors, weak

Card 1/2   solution and strong solution. This equation can be solved graphically,

SOV/66-59-3-8/31

Determination of the Optimum Working Conditions for the Work of an Absorption-Type
Refrigerating Machine

by making use of the auxiliary variables x and y, given by Formulae
9 and 10. For practical purposes, Equation 8 can be simplified and
reduced to Formula 11, which yields the optimum value of the concentra-
tion of a weak solution with an accuracy of 5%.
There are 2 graphs.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut kholodil'noy promyshlen-
nosti (All-Union Scientific Research Institute of Refrigeration Industry)

Card 2/2

BADYL'KES, Isay Savel'yevich, doktor tekhn.nauk, prof.; DANILOV, Rafail
Leonidovich, kand. tekhn. nauk; KAPLUN, M.S., red.; BRODSKIY, M.P.,
tekhn. red.

[Refrigeration systems with steam-jet units as booster compressors]
Sistemy okhlazhdeniia s primeneniem parostruinykh priborov v kache-
stve buster-kompressorov. Moskva, Gos. izd-vo torg.lit-ry, 1961.
                                             (MIRA 14:6)
27 p.
     (Refrigeration and refrigerating machinery)

BOBKOV, V.A.; DANILOV, .L.; GRACHEVA, ..., ..ICVA, G.L.;
OLENEV, Yu.A.; KUCLOPOVA, A.A. S....APU.I.. ..I.;RYUTOV,D.G.,red.;
BYKOVA, M.G., red.; OKOLELOVA, ... , tekhn.red.

[Use of refrigeration for the preservation of agricultural
products] Primenenie kholoda dli. khraneniia sel'skokho-
ziaistvennykh produktov. Moskva, Sel'khozizdat, 1963. 53 p.
                                        (MIRA 16:12)

1. Nauchnyye sotrudniki Vsesoyuznogo nauchno-issledovatel'-
skogo instituta kholodil'noy promyshlennosti (for all except
Bykova, Okolelova).
                    (Farm produce--Storage)

DANILOV, R.L., kand.tekh.n.nauk

Use of steam jet systems as booster compressors in th processing
plants of meat and dairy industries. Khol.tekh.. 40 no.3:50-52 My-
Je '63.   (MIRA 16:9)
            (Refrigeration and refrigerating machinery)

GUTOROVICH, A.; DANILOV, S.

Commotion in Fountain Valley. Vnesh. torg. 43 no.9:54-55 '63.
(MIRA 16:10)

DANILOV, Sp., inzh.

Passive antennas for retransmission on ultrashort waves. Radio
i televiziia 10 no.11/12:352-353.'61.

DANILOV, S.M.

1226.   THE LIGHTING OF STATIONS ON THE LENINGRAD   628.971((47)
METROPOLITAN (RAILWAY). G.M.Knorring and S.A.Danilov.
Svetotekhnika, 1966, No. 2, 3-11. In Russian.
The first section of the Leningrad Underground opened
towards the end of 1955 is 11 km long and has 8 stations each
of which has different architectural treatment. Each station
is illustrated and the method of lighting is described briefly
and critically. General conclusions are drawn about "artistic"
architectural lighting.
                                             W.R.Stoker

DANILOV, PROF S. A.

USSR/Metals - Welding   Jun 50

"Calculation of Welded Joints According to Diagrams
of Real Stresses," Prof S. A. Danilov, 7 pp

"Avtogen-Delo" No 6

Develops basic formulas for calculating welded
joints according to ultimate loads. Describes
method of constructing graphs for determination of
stresses in joint, and illustrates by examples ap-
plication of these graphs to calculating group of
welded joints.

161T96

DANIlOV.S.A., professor

Calculating groups of three welded joints according to limit loads.
Svar.proizv. no.10:1-7 0'55.

(Welding--Testing)   (MLRA 8:12)

Davilov, S. A

137-58-1-52

Translation from Referativnyy zhurnal. Metallurgiva. 1958, Nr 1. p 120 (USSR)

AUTHOR   Danilov, S A.

TITLE   Analysis of Welded Joints of Bent Rods Made by Means of
           Angular Inserts and Direct Welding (Raschet svarnogo sop-
           ryazheniya izgibayemykh sterzhnev pri pomoshchi uglovykh
           vstavok i neposredstvennoy privarki)

PERIODICAL   Tr Leningr Korablestroit. in-ta, 1956, Nr 19, pp 41-60

ABSTRACT: Equations are derived making it possible to find the limit-
           ing values of bending moment and lateral force An experimental
           check of the suggested method of calculation is made on the
           basis of results of tests of two series of samples welded with
           different types of electrodes The analysis satisfactorily re-
           flects the pattern of operation of the design

           1. Welded joints—Mathematical analysis   A K

Card 1/1

ACC NR: AP6035823   (N)   SOURCE CODE: UR/0413/66/000/020/0030/0030

INVENTOR: Antipin, L. M.; Bondarevskaya, L. B.; Vladytskaya, N. V.; Danilov, S. I.; Zhigach, A. F.; Larikov, Ye. I.; Snyakin, A. P.

ORG: none

TITLE: Method of synthesizing lithium-aluminum hydride. Class 12, No. 186983

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 30

TOPIC TAGS: lithium aluminum hydride,
                                        chemical synthesis

ABSTRACT: This Author Certificate introduces a method of synthesizing lithium-aluminum hydride by a reaction of sodium-aluminum hydride with lithium chloride in diethyl ether. To accelerate the process, it is carried out with additions of aluminum trialkyls. In a variant of the synthesizing process, aluminum-trialkyls are added in a quantity of 1—7%.

SUB CODE: 07 / SUBM DATE: 22Oct64/

Card   1/1   UDC: 661.968.546'621'34'11

Danilov, C. K.

Piatiletka zheleznodorozhnopo transporta, kak sotsialisticheskii put' ero ravitiia. (Po ed piatiletki i zheleznodorozh nyi transport). /Five-year plan for railroad transportat' n as a socialest way for its d velo ment. The victory of the five-year pla and the railroad transp ati n_7 (Sobs. transport, 1933, no. 1-2, n. 13-24).

DL: F2.84

SO: Soviet Transportation and Communications, A Bibliography, Librar of onress, Reference Department, Washinpton, 1952, Unclassified.

DANILOV, S. and VOL'FSON, L. IA.

V polose tekhnicheskoi rekonstruktsii zhel-znodorozhnogo transporta. /In the field of technical reconstruction of railroad transportation/. (Sots. transport, 1933, no. 10, p. 27-37).

DLC: HE7. S6

30: Soviet Transportation and Communications, A Bibliography, Library of Congress Reference Department, Washington, 1952, Unclassified.

GIBSHMAN,A.Ye.; DANILOV,S.K., professor; DMITRIYEV,V.I.; KORNEYEV,A.I.;
    TVERSKOY,K.N.; OMBLIYA,V.E.; KHANUKOV,Ye.D.; CHERNOMORDIK,D.I.;
    CHUDOV,A.S.; SHIL'NIKOV,N.S.; KRISHTAL',L.I., redaktor; KHITROV,
    P.A., tekhnicheskiy redaktor

[Economics of transportation] Ekonomika transporta. Moskva, Gos.
transp.zhel-dor.izd-vo, 1955. 617 p.   (MLRA 9:3)
                    (Railroads--Finance)

PHASE I BOOK EXPLOITATION   293

Gibshman, A. Ye., Danilov, S.K., Dmitriyev, V.I., Korneyev, A.I.,
    Tverskoy, K.N., Umbliya, V.E., Khanukov, Ye. D.,
    Chernomordik, D.I., Chudov, A.S., Shil'nikov, N.S.

Ekonomika transporta (The Economics of Transportation) 2d rev.
    ed. Moscow, Transzheldorizdat, 1957. 711 p. 30,000 copies
    printed.

Ed.: Krishtal', L.I.; Tech. ed.: Khitrov, P.A.

PURPOSE: This textbook is intended for students in engineering-
    economic branches of Railway Transportation Institutes, as well
    as for railway workers engaged in the independent study of railway
    economics.

COVERAGE: The economic aspects of railway transportation are dis-
    cussed in this textbook. It covers such subjects as technical-
    economic problems, the most efficient way to use available
    facilities, methods for planning and organizaing various branches

Card 1/21

The Economics of Transportation   293

of transportation operations and production, wages, costs, finances, and business accountability (khozraschet). For detailed information see Table of Contents. The book is written by several specialists in the field of railway transportation: Chapters I and IV, and part 1 of chapter II are written by Prof. S.K. Danilov; Ch. II, (parts 2, 3, and 4) is written by D.I. Chernomordik, Doctor of Economic Sciences; Ch. III by Docent A.I. Korneyev; Chapters V, VII, and VIII by Prof. Ye. D. Khanukov, Doctor of Economic Sciences; Chapters VI and XIV by Docent K.N. Tverskoy, Candidate of Economic Sciences; Ch. IX by V.I. Dmitriev, Candidate of Economic Sciences; Ch. X by Prof. A. Ye. Gibshman, Doctor of Technical Sciences; Ch. XI by Docent V.E. Umbliy, Candidate of Economic Sciences (deceased), revised by Prof. S.K. Danilov; Ch. XII by Docent A.S. Chudov, Candidate of Technical Sciences; Ch. XIII by Docent N.S. Shil'nikov, Candidate of Economic Sciences. There are 24 pages of references (pp. 682 through 705). Pages 682 to the middle of 694 are devoted exclusively to references from the works of Marx, Engels, and Lenin.

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From the middle of p. 694 through p. 705, the references are trans-
portation orders issued by the Communist Party and the Soviet
government. No other personalities are mentioned.

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Planning of Capital Investment for Railway Transportation

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AVAILABLE: Library of Congress

                              GO/lsb
Card 21/21   24 July 1958

DANILOV, S.K., prof.

Creation of the material and technical foundations of communism and role of railroad transportation. Zhel.dor.transp.44 no.3:8-14 Mr '62.   (MIRA 15:3)

(Railroads)

DANILOV, Sergey Konstantinovich, prof.; TVERSKOY, K.N., retsenzent;
PESKOVA, L.N., red.; USENKO, L.A., tekhn. red.

[Railroad transportation and the economic and technical
foundation of communism]Zheleznodorozhnyi transport i ma-
terial'no-tekhnicheskaia baza kommunizma. Moskva, Trans-
zheldorizdat, 1962. 100 p.   (MIRA 16:4)
                    (Railroads) (Communism)

L 44540-65   EWT(d)/EWP(o)/EWP(v)/EWP(k)/EWP(h)/EWP(1)   Pf-4
ACCESSION NR AM5013139   BOOK EXPLOITATION   UR/19

Galitskiy, Mikhail Iosifovich (Professor); Danilov, Sergey Konstantinovich
   (Professor); Korneyev, Aleksandr Il'ich (Docent)   B+1

Economic geography of transportation in the U.S.S.R. (Ekonomicheskaya geografiya
   transporta SSSR) Moscow, Izd-vo "Transport", 65. 0302 p. illus. Errata slip
   inserted. 10,00 copies printed. Textbook for higher learning institutions
   specializing in railroad transportation.

TOPIC TAGS: commerce, transportation system, transportation status, economic sys-
tem, railway network, mineral industry, petroleum industry, metallurgic industry,
forestry, chemical industry, agriculture

PURPOSE AND COVERAGE: The textbook develops basic regularities of the socialist
distribution of industries and the role of transportation in their realisation.
The process of formation of the transportation system in the USSR with respect to
the distribution of productive forces is shown. Interregional exchange and basic
directions in goods traffic, as a whole, in connection with economical zoning of the
country is given. The book presents problems of distribution of the industry, in-
terregional exchange and traffic of basic industrial and agricultural goods, and
transportation of goods for foreign trade. The geography of passenger traffic and

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L 44540-65
ACCESSION NR AM5013139   0

economical and geographical characteristics of railroads in the complex of greater
economical regions is shown. The textbook is intended for students of engineering
economics in higher educational institutions of transportation as an aid to trans-
portation personnel and others engaged in independent study of its working and de-
velopment.

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ACCESSION NR AM5013139

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SUBMITTED: 15Dec64   SUB CODE: GO

NO REF SOV: 000   OTHER: 000

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Isomerization of hydroxyaldehydes. II. Transformation of bromdiphenylacetaldehyde and diphenylglycollaldehyde. S. Danilov and E. Venus-Danilova (J. Russ. Phys. Chem. Soc., 1929, 61, 1661—1662).—See A., 1929, 1448.

DAN... S .

Isomerization of the hydroxy aldehydes. III. Transformation of glucose into ketose (fructose). S. DANILOV, E. VENUS-DANILOVA AND P. ŠUANTAROVICH. *J. Russ. Phys.-Chem. Soc.* **62**, 494(1930); *Ber.* **63B**, 2269–74(1930), cf. *C. A.* **24**, 1093.– Glucose heated in org. bases, especially pyridine and quinoline, gives neutral products consisting of only glucose and fructose without any admixed mannose. In aq. pyridine and aq. alc. quinoline the rearrangement does not proceed so smoothly. 1–2% of org. acids is formed and mannose could be detected.
C A R

Isomerization of the hydroxy aldehydes. IV. Transformation of benzylbromo-acetaldehyde and benzylglycolaldehyde. S. DANILOV AND E. VENUS-DANILOVA. *Ber.* **63B**, 2765–75; *J. Russ. Phys.-Chem. Soc.* **62**, 1697–1711(1930), cf. *C. A.* **24**, 1093.–*Benzylbromoacetaldehyde* (I), from PhCH₂CH₂CHO and Br in CS₂, is an unstable oil readily reinifying and polymerizing on standing, but it yields a cryst. monohydrate. m. 87.5–8°, which permitted of studying the conversion of I into benzylglycolaldehyde (II) and the acid (III). Heated with H₂O and freshly pptd. BaCO₃ I gives II in quite good yields, together with 4% PhCH₂CH₂CO₂H (IV). With Ag₂O are obtained 30% II, 9.4% III, 5.6% of a condensation product (V) of I and 31% IV. PbO₂ yields chiefly II and 22.6% IV. The structure of II is re...

...tablished by its prepn., its drivs. and its oxidation products. KMnO₄ in aq. C₂H₅N gives PhCH₂CHO, BzOH and III. Its isomerization into the II⁰ ketone is accompanied by the formation of a diketone. PhCH₂CH(OH)CHO (II) → PhCH(OH)COMe (VI) + PhCOCOMe (VII). II, b₅ 12⁰ 1°, m 51.5–2°, reacts with NH₂AgNO₃, fuchsin, SO₂ and Fehling soln., mol. wt. in freezing C₆H₆ 143.7, oxime, m 123°, semicarbazone, m 130.5° phenylosazone, yellow, m 137° benzoate, m 50°, mol. wt. in freezing C₆H₆ 252.0 III, m 97.5° mol. wt. in freezing C₆H₆ 150 VII, b₁₄ 111.5° dioxime m 208.0 VI, b₁₄ 130–2°, mol. wt. in freezing C₆H₆ 155.0 semicarbazone, m 194° With PhMgBr VI yields PhMeC(OH)CH(OH)Ph, m 103°, gives with concd. H₂SO₄ a deep red color destroyed by H₂O and is oxidized by CrO₃, AcOH to PhCOMe and BzOH.
C A R

The Nikitovka mercury deposits [South Russia] N N Danilov and I A Abramov Increase Metal 1931, 263 76 Results of exploration of the deposits, geological, petrographic and metallographic characteristics of the deposits are given The ore is mainly cinnabar The quantity of available ore is estimated at 18 million tons contg about 13,000 tons of mercury N N Danilov

Hydration of acetylene alcohols with a primary alcohol group. F. D. \ ENUS-DANILOVA AND S. N. Danilov. *J. Gen. Chem.* (U. S. S. R.) 2, 645–58(1932) – The synthesis of the primary α-keto alcs. was undertaken to clarify the interrelation of the isomeric phenyl-acetol, PhCH₂COCH₂OH (I) and phenylglycolaldehyde, PhCH₂CH(OH)CHO (C A 25, 1819). All syntheses were carried out by hydration in the presence of (AcO)₂Hg It was assumed that the addn. of H₂O to PhC CCH₂OH (II) and its homologs would result in formation of α- and β-keto alcs., but no α-keto alcs. were formed With II was obtained mainly BrCH CH₂ (III) and a little of BrCH₂CH₂OH (IV), and with PhC C-CH₂OAc a mixt. of BrCH₂CH₂OAc, III and its polymer The formation of III is evidently caused by splitting off of H₂O from the intermediate IV. Me₂CC CCH₂OH (V) reacted analogously, producing Me₂CCOCH CH₃ (VI) and Me₂CCCOCH₂CH₂OH (VII), and their acetates in the mixts. were thus identified The vinyl ketones and α-keto alcs. and their acetates in the mixts. were thus identified The semicarbazone of IV, m 170°. was obtained together with the semicarbazide semicarbazone of III, m 208°, semicar-bazone of VII m 223° (decompn), and that of the acetate m 127°, while VI gave no semicarbazone III produced 1,3-diphenylpyrazoline, m 153.5–4°, and so did IV and its acetate VII and VI (and its acetate) with PhNHNH₂ gave Me₂CC(NNHPh)CH₂-CH₂NHNHPh, m. 134° III, with NH₂OH (1 mol to 1 mol) gave C₁₀H₁₄O₃N (VIII), m 122.5°, which, heated with 25% H₂SO₄ or 30% HCl, does not split the NH₂OH radical, but gives salts with 1 mol of HCl or H₂SO₄ III, treated with an excess of NH₂OH, or VIII gently heated with NH₂OH in aq alc , is converted to C₁₀H₁₅O₃N₂ (IX), m 153°, which, treated with mineral acids, gives no salts but splits off 2 NH₂OH radicals with formation of VIII. The proposed structural formulas are for VIII (PhCOCHMe)₂NOH and for IX ¡PhC(NOH)CHMe ₂NOH.

CHAS BLANC

CA

PROCESSES AND PROPERTIES INDEX

Isomerization of hydroxy aldehydes. V. Oxidative-reductive transformations of α-hydroxy-isobutyraldehyde. B. Danilov and E. Venus-Danilova. Ber. 67B, 24-35 (1934); J. Gen. Chem. (U.S.S R.) 3, 569-72(1933), cf. C. A. 29, 1819.—Mono- or polymeric $Me_2C(OH)CHO$ (I) in alk. soln. (180 hrs. in 3% NaOH at 30°, long standing at room temp. or 3 hrs. at 100° in 3-4.4% KOH) gives only a mixt. of $Me_2C(OH)CO_2H$ and $Me_2C(OH)CH_2OH$ with or without unchanged I, i. e., it undergoes almost solely the Cannizzaro reaction. In the presence of Cu(OH)$_2$ or Pb(OH)$_2$ at 100°, however, there is obtained, in addn. to unchanged I and the rearrangement product, $MeCH(OH)COMe$ (II), 40-8% Me_2CHCO_2H (with the Cu salts a little (7-8%) $Me_2C(OH)CO_2H$ is also formed). The metal oxide transports the O from the OH to the CHO group but is itself not reduced. The oxidative-reductive transformation of I into II is best effected (with almost quant. yield) by heating 6-8 hrs. with very dil. acid at 185°. In alk. soln. II is formed only in very small amt and in the presence of oxides of heavy metals. No Ac could be detected, showing that HO ketones with alkyl radicals are oxidized to diketones with considerably greater difficulty than those which contain Ph or cyclo-hexyl residues. I was prepd. from polymeric Me_2CBr-CHO made directly from Br and polymerized Me_2CH-CHO. After several careful distns. it bd. 62-4° and on standing gradually thickened, finally solidifying after some months to crystals m. 78-4°, the mol. wt. in freezing C_6H_6 increasing from 93.1 immediately after distn. to 236 in 48 hrs., when I showed d^2 1.1014, d^{12} 1.0630, n^{19} 1.44181, R_m 1.43070; semicarbazone, m. 164-5°, p-nitrophenylhydrazone, m. 153-9° (decompn.) C A R

The determination of the benzoyl group in benzyl-cellulose. S. N. Danilov and A. L. Iokhel. *Plast-icheskie Massui* 1934, No. 1, 33-5. — Fifteen g. of powd NaOH, 5 g. of Al or 10 g. of Zn and 5 g. of benzylcellulose are carefully mixed in a Cu flask and heated at 400 M° for 40-60 min. The PhMe formed is distd. into a calibrated cylinder. The percentage of benzoxyl present, as detd from the amt. of PhMe, is low, but the method is accurate enough for control work. H. M. Leicester

Benzyl ethers of ethylene glycol and glycerol in con-nection with the synthesis of simple cellulose ethers. S. Danilov, V. Dryakhlinina, O. Manokhina and N. Orlova. *Plasticheskie Massui* 1934, No. 2, 11-16. — A mixt. of mono- and dibenzyl ethers of glycerol is ob-tained from Na, glycerol and PhCH₂Cl. The same mixt is better obtained from glycerol, PhCH₂Cl and powd. NaOH at 100-30°. These ethers increase the plasticity of benzylcellulose. The mono- and dibenzyl ethers of ethylene glycol can be obtained in an analogous manner. Etherification under these conditions probably occurs through addn. compds. of NaOH with OH groups, rather than through the formation of alcoholates. This mecha-nism also seems to hold in the formation of cellulose ethers. H. M. Leicester

Reduction of nitrocellulose viscosity. I The chemical action of weak and strong bases on nitrocellulose. S. N. Danilov and L. I. Mirlas. *J. Gen. Chem.* (U.S.S.R.) 4, 817-29(1934); cf. D. M. Kremnev and Pastukhov, C. A. 29, 3582. – The denitration of nitrocellulose (I) with basic compds. is attended by the oxidation of I with the formation of fractions sol. in cold and hot alk. The weak bases (NH₃, C₅H₅N) also cause lowering of the alk. the structure of that part of I which is chemically unchanged. Some weak bases, such as NH₃, NH₄OH, (NH₄)₂S, Na₂SO₃ and particularly NH₃ and C₅H₅N, give greater reduction of the viscosity of I than the equiv. quantities of strong bases (NaOH, CH₃)₄NOH), this difference is related to the rapid decompn. of the latter in the neutralization of the excessively formed NO₃, and to the formation of loose mol. compds. of weak bases with I and their prolonged action without a marked change in chem. reactivity. The NO₃ split off in the process of a partial denitration is changed to NO₂. The degree of resulting oxidation of the cellulose complex is detd. by the increased yield of furfural. With the greater intensity of denitration the soly. of I in alk. is increased, which by denitration with 0.2% NH₃ can reach 80%. The alk. sol. fractions are chemically a heterogeneous mixt. of I of different N contents. The denitration products chem. and colloid-chem. heterogeneity. The viscosity of Cu-NH₃ solns. of denitrated cellulose is not a measure of the magnitude of the particles of the original I, because in the process of denitration a "leveling" of the viscosities takes place. *Chas. Blow*

Thioanhydrides of cellulose xanthic acid. S. N. Danilov and D. S. Brokhina. *J. Gen. Chem.* (U.S.S.R.) 4, 805-10(1934); cf. C. A. 28, 6300. – BₓCl and cellulose xanthates gave products (probably thioanhydrides) that contain chemically bound S and so Na and that give CS₂ with alkali. The content of S depends on the quality of thiocarboxylate S in the material treated. L. W. B.

Effect of solvents on the viscosity of nitrocellulose solutions. S. N. Danilov, I. I. Mirlas, L. Ya. Kremnev and P. T. Pastukhov. *Iskusstvennoe Volokno (Artificial Fiber)* 5, No. 1, 10-20(1936). Tabular presentation with discussion of the solubilities and viscosities of nitrocellulose in mixts. of org. solvents commonly used in spinning.

Chas. Blanc

Distribution of carbon disulfide in the formation of cellulose xanthate and by-products. S. Danilov and S. Rizov. *Iskusstvennoe Volokno (Artificial Fiber)* 5, No. 2, 16-22(1936); cf. Bernhardt, C. A. 30, 1719; Geiger, C. A. 24, 4448.—A study of some factors influencing the proportional formation of cellulose xanthate and trithiocarbonate in the production of viscose, with tentative conclusions.

Chas. Blanc

A. S. M. S. L. A. METALLURGICAL LITERATURE CLASSIFICATION

B-2-5

Vinylcyclohexylcarbinol. S. N. Danilov and S. M. Risov. J. Gen. Chem. (U. S. S. R.) 5, 1035) It is possible that lignin contains hydroaromatic as well as aromatic nuclei. As a first step in the synthesis of chains made up of cyclohexane rings joined by glycerol residues. cyclohexylvinylcarbinol, C₆H₁₁CH(OH)CH·CH₂ (I), has been prepd. from cyclohexylmagnesium bromide and acrolein (II). The crude product, contaminated with some polymer of II, b₆ 88–91° I was obtained in 80–81% yield, b₃ 88–91°, d₄° 0.9290, n⁵ 1.4770, acetate (III), b₄ 101–3°, d₄° 0.9492, n⁵ 1.4570⁴. Bromination of III followed by treatment with AcOAg at 120° gave a bromocyclohexylvinylcarbinyl acetate (IV) in which the position of the Br was not detd. IV b₆ 143.5°, d₄° 1.3040, n⁵ Lewis W. Butz